

AN
ASTRONOMICALL
DESCRIPTION OF

the late Comet from the 18. of

Nouemb. 1618. to the 16. of
December following.

With certaine Morall Prognosticks or

*Applications drawne from the Comets motion
and irradiation amongst the celestiall*

HIEROGLYPHICKS.

BY VIGILANT AND DILIGENT

observations of IOHN BAINBRIDGE

Doctor of Physicke, and lover of
the Mathematicks.



LONDON,

Printed by Edward Griffis for Iohn Parker.

1619.

AN
ASTRONOMICAL
DESCRIPTION OF

the late Comet from the 18. of

November to the 18. of

December following.

This contains Astronomical

Applications drawn from the Comet's motion

and is intended to assist the student

in the study of

BY VIGILANT AND DILIGENT

Observation of JOHN BARNARD

Doctor of Physick and Master of

the said University



Printed by Edward Griffin for Robert Taylor

1819



TO THE
IMPERIALL
 MAIESTY of GREAT
 BRITAINES *Monarch*
JAMES &c.

Most gracious Soneraigne,



I was the coun-
 sell of *Aristides,*

καὶ μὲν εἰς τὴν θεῶν τιμὴν
 ἐποιεῖν, καὶ δὲ εὖ διατελεῖν
 τὴν τοῦ βασιλέως ἐκείνου

τιμὴν. **To wor-**

ship GOD with
 consecration of

Temples , but to honour Noble

The Epistle Dedicatorie.

personages with Dedication of
bookes : following this aduice , I
beganne not long since the descri-
ption of Great *Britaines* Monar-
chy in three Columnes, Histori-
call , Panegyricall, and Prophe-
tasticall ; intending thereby to stir
vp your leige people to a religious
admiration of Gods wonderfull
Prouidence in vniting these two
famous Kingdomes into one Mo-
narchy ; to a iust acknowledge-
ment of our exceeding happinesse
therein : as also to an vnanimous
desire, and endeauour for the ab-
solute Vnion and perpetuall pre-
seruation thereof. In the meane
time Heauen it selfe offered a faire
occasion to manifest the feruent
zeale long smothered in my loyall
breast

The Epistle Dedicatorie.

breast towards your MAIESTY,
the late strange, and admirable
Comet, which hath filled so ma-
ny eies with his rayes, and their
thoughts with Meteors, or
doubts. An Astronomicall de-
scription whereof delineated in a
celestiall Planisphere, with some
briefe touches in the Progno-
stiques, and Morall applications
thereof, I humbly offer to your
princely Excellence, beseeching
you to proiect the beames of
your sweete, and gracious in-
fluence both on it, and the
Authour; that, as the glorious
Sunne of Heauen with his re-
splendence enlightned this (o-
therwise obscure) Comet: So
your MAIESTIE our terrestri-
all

The Epistle Dedicatorie.

**all Phæbus would vouchsafe to
illustrate**

Your Maiesties

most humble, and

loyall Subiect.

JOHN BAINBRIDGE.

Sereniss. BRITANNIARVM Maiestati.
ΧΑΙΡΕ COELESTE.

Rex χαιρε Dijs charissime,
Salue Britannis optime:

~~Saluere iussit nuntius~~

Cæli comatus, regia

Spargens Eorū munera.

Quacumque transis, sydera

Salue canūt Rex maxime,

Salue Britannis optime.

Nec non amoris tesseræ

Iungunt salutē nobiles,

Hermes potentē virgulam,

Et Libra iustē penāulas

Lances, aristam floridam

Virgo, & Coronā Gnosiam,

Serpens ocellum prouidū,

Fortis Bootes hastulam,

Arctusque regno sacula

Optat beato plurima.

Rex χαιρε Dijs charissime,

Salue Britannis optime.

I. B.

Errata.

PAg. 3. l. 31. for *head* read *tail*. Pag. 6. l. 6. put out of *Planets*. Pag. 7. l. 7. for 27. read 30. Pag. 7. l. 20. for *eleventh* read *twelfth*. P. 9. l. 10. for 18. read 15. P. 14. l. 12. for *vnfold obscure* read *vnfold this obscure*.

DEO OPT: MAX:
SACRUM.

Augustiss: Brittanniarum
Monarchæ Francicæq; regi

IACOBO I.

Fœlix noui anni auspiciū

et

D: Astronomiæ tandem instaurandæ
Symbolum

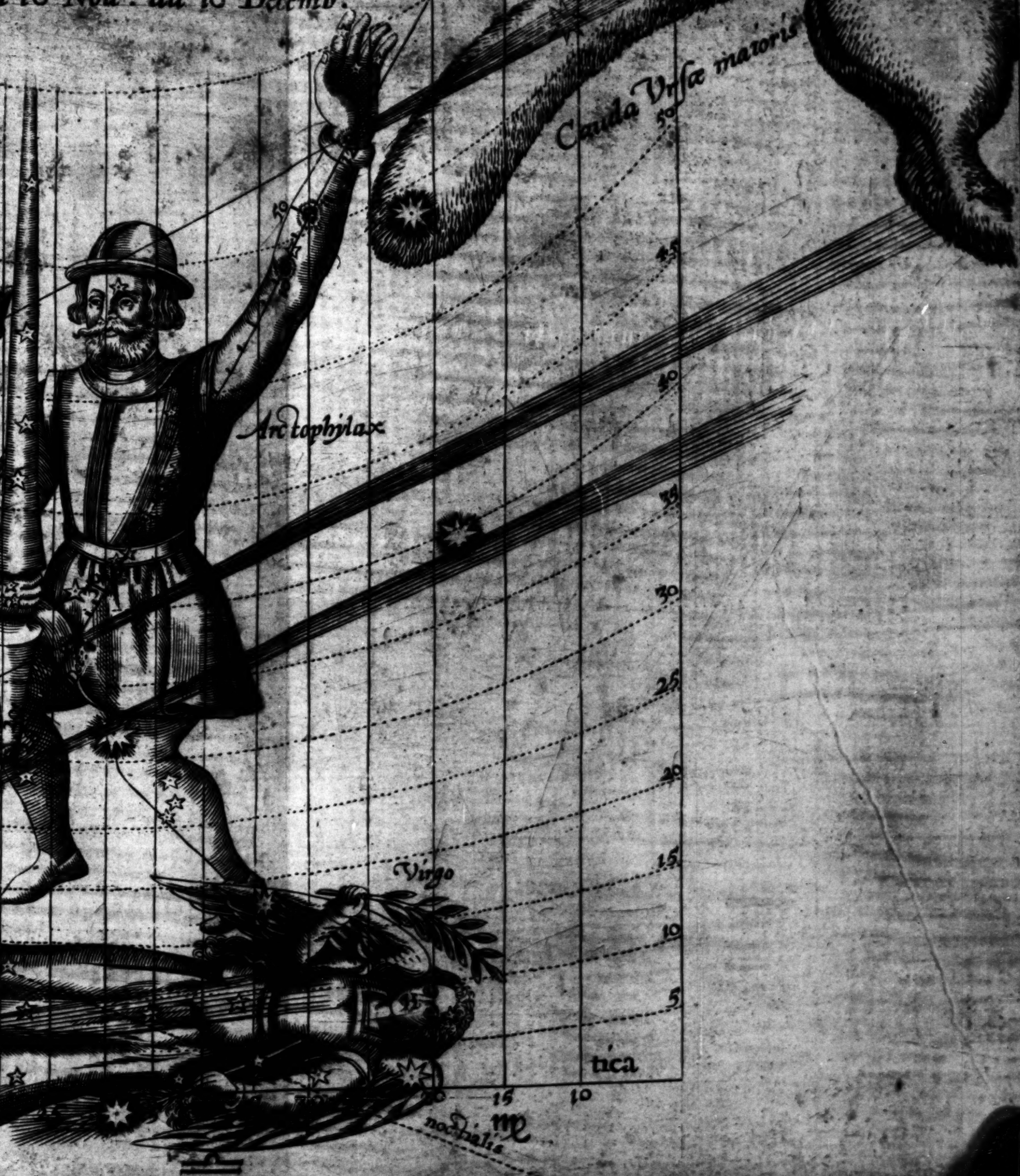
fecit vovitq;
Ioh: Bainbridgius
Med: Doctor.



Eclips



ui effulsit Anno 1618
18 Nou: ad 16 Decemb.





An astronomically Description
of the late Comet, or
blazing-star.



Hope there bee none so farre
more precise then wise, as to
thinke it vnlawfull to looke
on this celestiall Signe with
other then vulgar and pore-
blinde eyes : (which were
still to maintaine ignorance
mother of deuotion.) Or if
any such there be, I shall meet with them in the clo-
sure of this Treatise, and therefore without further
tedious Prologue ;

May it please you to suruay this celestiall Planis-
spheare, whose lineaments are optically projected
vpon a plaine touching the Ecliptique in the twen-
tieth degree of the dodecatemory of *Libra*, the eye
being placed in the center of the Spheare, from
whence all the great circles doe appeare right lines,
as they are in the chart protracted. Which thing is
of speciall vse in our present businesse (as you shall
anon perceiue) for which cause I preferred this new
manner

How the Planis-
spheare is deli-
neate.

2 *An astronomicall Description of*

manner of proiection (though to my greater paines) before any other in common practise.

The Ecliptique.

The lowest line of all is the Ecliptique line, from which the Sunne (as other Planets doe to some few degrees) neuer strayeth.

Parallels of latitude.

The crooked prickt lines bee parallels of latitude from the Ecliptique towards the Arcticke Pole thereof: the space betwixt enery two lines is five degrees.

Circles of longitude.

The other right lines falling down perpendicular on the Ecliptique be circles of longitude; beginning at the fifth degree of *Virgo*, and so forwards to the fifth of *Sagittary*: the spaces be also five degrees: by these two kinde of lines, it is easie to finde the longitude and latitude of any starre in the chart, and also of the Comet.

These circles of longitude do in the Spheare concur in the pole, but this proiection in *plano* doth keep them parallel, or at a continued equall distance each from other.

Aequinoctiall line.

From the beginning of *Libra* towards *Capricorne*, is extended the aequinoctiall line, to whose intersections with the Ecliptique when the Sun commeth, the nights and dayes bee equall; as alwayes in all places of the earth vnder the same.

Pictured Constellations.

From this line, towards each Pole, is counted the declinations of Stars, the greatest part of this Planispheare is on the Arcticke or Northerne side: but these things are plainly remonstrate to the eye in the chart, and therefore I will make no further explanation of them; neither of the Constellations emblematically pourtrayed according to the mysticall Hieroglyphicks of ancient Sages.

The

the late Comet or Blazing-star.

3

The place of each particular starre is correspond- *The stars places.*
ent to the most accurate observations of the illustrious Prince *William* late Lant Graue of Hessen, and that tresnoble Dane *Tycho Brahe*, of whose admirable Vranicall instruments many honourable witnesses are still suruiuing.

But it (for whom all this preparation is made) is the late Comet, whose delineation is taken from mine owne vigilant and diligent observations with Geometricall instruments, especially the Radius, or Crosse-staffe, eternized by the heroike Poet: *How the Comet was observed.*

*Descriptis radio totum qui Gentibus orbem,
Tempora quæ messor, quæ curuus arator haberet.*

Who with his Jacobs staffe suruay'd the ground,
Did measure times, and all the Heauens round.

The first occasion and particular manner of which observations with the scrupulous and punctuall places (of the Comet) from them by necessity of sphericall triangles deducted, I leaue to my Latine Cometography, which (if these labours finde acceptance at home) I will adorne for Franekfurt: of whose more curious and ample demonstrations, this little chart is a true Synopticke Epitome; wherein may at once bee seene the Comets place, as it daily appeared in the concaue surface of Heauen: the *The Cometary line.*
line of his proper motion (appearing in the Heauens to be the arch of a perfect great circle) crosseth the Ecliptique in the 15 degree, with $\frac{1}{2}$ or thereabouts of *Scorpio*, running through the Constellation of *Libra*, ouerthwart *Arctophylax*, along the extent of *Amongst what Constellations.*
his left arme by the head of *Vrsa maior*, towards the Pole Arctick, but a little more Southward.

4 *An astronomical Description of*

*Inclination to
the Equino-
ctiall.*

This Cometary line cutteth the Equinoctiall line in the 8 degree almost of *Scorpio*, and 15 of Northerne latitude: making with it an angle of 81 degrees $\frac{2}{3}$ towards *Libra* and the Pole Arctick. If this angle had beene right 90 degrees, the line of the Comets motion would have runne into the very Pole, but making some inclination towards *Libra*, it fell (as I sayd) a little Southwards from the Pole.

*To the E-
cliptique.*

This line also and the Ecliptique (towards *Capricorne* and the North) comprehended an angle of 116 degrees. So that the Pole of the Comets proper motion was about 15 $\frac{1}{2}$ degrees of *Aquarius*, with 25 degrees $\frac{2}{3}$ of Northerne latitude.

*The Comets mo-
tion in this line.*

The motion it selfe (reckoned in this line) from my first obseruation on Wednesday morning the 18 of November, to Wensday the 16 of December when I last saw the Comet, amounted almost to 73 degrees in 28 dayes: which is not 2 degrees $\frac{2}{3}$ one day with another: but the Comets apparant motion at the first was somewhat swifter, though not much, and in the end a little slower.

*A little swifter
at the first.*

*To finde it by the
Planisphere.*

I haue for the further remonstrance heereof graduated the Cometary line; beginning at the intersection with the Equinoctiall both wayes: and by the Comets place set downe the time.

*Note the regu-
larity thereof.*

Heere I would haue those who ranke Comets amongst inconstant Meteors, to take speciall notice of this Comets constant regularity, for that the inequality of his motion was not onely little, but ordinate, successiueley decreasing *sensim sine sensu*, by so little and little, that it could not be perceiued, but by comparing many dayes obseruations.

Let

the late Comet or Blazing-star.

5

Let them also obserue that his motion in this line was scarce at the swiftest one fourth part of the Moones celerity: but of this anon.

Scarce one fourth part of the Moones motion.

I will also propound to Masters in Astronomy this Comets exact and direct description (by his apparant motion) of a great circle without any deu- ations. What was the true line of his motion in the ætheriall Ocean? What inclination it kept to this our habitable Orb? By what *Primum Mobile* this Comet (keeping so iust a line) was whirled about the earth euery foure and twenty houres?

In one exact great circle.

Astronomical propositions concerning the Comets motion.

These considerations bee onely fit for those who haue beene rapt vp aboue the elementary regions of vulgar Schooles: and slept not in *Parnassus*, but *Olympus*, vnder the spangled canopy of *Vrania*; I can hardly keepe within the spheare of this little Treatise, and scarcely refraine from the Samian Philosophy of *Aristarchus* in the earths motion, were it not I feared another *Aristarchus* his broach: and that I must reserue these mysteries for a more learned language. Wherefore to prosecute our present description: Vpon the inclination of this Cometary circle or line to the Ecliptique and *Æquinoctiall*, depend the Comets places and motion in longitude, latitude, right ascension and declination, as appears in the Planisphære; wherein is manifest, that the Comets motion of longitude was continually retrograde, contrary to the order of the signes, from the middle almost of *Scorpio*, through *Libra* into *Virgo*. which retrogression hath beene noted in many other Comets, as I shall elsewhere relate; but the cause of their retrogression hath laien hid in the mysticall

The Comets motion in Longitude and latitude.

Continually retrograde.

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*But not from
Saturne.*

*From whence
was caused his
retrogression.*

*Slower in the
beginning.*

*Comets declina-
tion from the
Equinoctiall.*

*Was not at first
over Spaine.*

sticall cabinet of Astronomy. It were vaine to af-
firme *Saturne* now also retrograde in his Acroni-
chiall opposition in *Gemini*, to hale backe this Co-
met by the haire after him (as simple Astrologians
conceit) for that these planetary retrogressions and
stations of Planets bee but *φανέρωσις*, appearances;
the Planets still making progresse in their owne cir-
cles, (as is well knowen to them who are well versed
in the Labyrinths of Astronomy) but this Comets
retrogression depends on the inclination of his true
line in the ætheriall Regions, which though it ap-
peared to vs circular in the concaue of Heauen, yet
in it selfe was right: but I may not breake *Pythago-
rean* silence.

This retrograde motion being referred to the E-
cliptique in longitude was (contrary to the motion
in his proper circle) slow in the beginning, and much
swifter in the end; which is caused from the great
inclination of the Cometary line to the Ecliptique,
which plainely appeareth in the Chart, by which
you shall easily finde the Comets place in longitude
and latitude for any day of his tearme.

The Comet also every day changed his parallel
of declination (mounting continually Northwards)
and therewith his verticall passage over the Earth.

The common sort, at his first appearing, thought
him to bee over *Spaine*, making I know not what
prognosticks thereof: but their eyes deceiued them,
they aimed many thousand miles too short: At my
first obseruation he declined twelue degrees towards
the South, making his diurnall gyre over that terre-
stially circle wherein lie *Nova Guinea*, the *Iles Timor*
and

and *Iana* in the East, the north part of *S^t. Laurence*, *Mozambique* in *Africa*, the middle of *Brasilia*, & *Pern* Over what place. in the west. About the twentieth two of November it entered the æquinoctiall plaine over the *Moluccas*, *Malaca*, *Sumatra*, *Abassia*, *S^t. Thomas*, *Gniana*; every day ascending higher towards our Pole Arctick, about the 27. entering the Tropick of *Cancer*, afterward passing over all the regions of the earth, even over the utmost limites of the *British* Empire.

By the Comets declination is easie to know over what place the Comet was every day verticall: for if his declination be equall to the Latitude, or Poles elevation, (which may be knowne by Tables or Mappes) then of necessity did the Comet passe over head in that place. The middle of *Spaine* lyes in fortie degrees of Latitude from the equinoctiall northward; but the Comets declination was not so much, till about the sixt of December; and therefore could not be verticall to them before that time.

How to know
over whose head
it was every day.

When over
Spaine.

Over London.

About the eleventh of December his declination was fiftie one degrees and halfe, and therefore passed over *London* in the morning, and so hastened more Northwards even as farre as the *Orcades*.

The Comets declination may be had in the chart by the line of his motion being graduated on both sides the æquinoctiall: for the distance from the æquinoctiall is (with a little correction) the declination: for from one degree to twentieth, the distance is within a few minutes the declination: but from twentieth degrees to fortie subtract one fourth part of a degree, from fortie to fiftie subtract halfe a degree, and from fiftie to sixtie subtract one degree from

To find the Co-
mets declination
by the plani-
sphere.

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from the Comets distance (from the æquinoctiall) and there remaines his declination , which whether it were South or North the Plani-sphere will shew.

On the third of December his distance in his own line from the æquinoctiall was 30. degrees 40. min. from whence 15. min. subtracted there remaines 30. degrees & twenty five minutes the declination.

*The alteration
of his rising.*

By reason of this mounting Northwards, the Comet did euery day rise sooner then other, withall changing his azimuth, or point of compasse (in his rising) from South-east and by East towards the north vntill at length it made continual abode aboue our Horizon.

*Seen after Sun-
set.*

I may not forget that the Comet in the later part of his period was North-west after sunne-set, which gaue occasion to some not skilfull in Astronomie to affirme a second Comet. But from the beginning I fore-told (which was no great matter to doe) that if the Comet continued awhile , it would aduance neere to the tayle of *Vrsa maior*, and be seene in the euening after the Sunne.

*The Comets
blazing stream.*

Now are we come to that from which Comets, or Blazing-stars are denominated ; the tayle , or rather the blazing streame , which in this Comet was very remarkable , and is truely pourtraied in the plani-sphere, as it appeared in the heauens , being alwaies in opposition to the Sunne , or extended in length according to a right line issuing from the Sunne through the Comets body. For plainer remembrance whereof I specially invented this new manner of proiecting the Spheare in plano , and haue caused the Elipticke to be protracted to the begin-
ning

*Alwaies in oppo-
sition to the Sun.*

ning of *Capicorne*, and in it the Suns place exactly noted on severall daies of the Comets apparition, also from the Sunnes Center proceede right lines through the body of the Comet which doe precisely shew the true prospect of his bushie lockes.

The 27. of November in the morning the Comets haire was spread over the faire starre *Arcturus* betwixt the thighes of *Arctophylax* or *Bootes*. Now the planisphere doth shew that a right line drawne from the Sunne then in the 18. degree of *Sagittarie* through the Comets body doth approach the said Starre. So the last of November about midnight following the Comets bush over-shadowed a starre of the third light in the left hinder knee of *Ursa maior*. Which doth manifestly appeare in the planisphere by a line extended from the Sunne (then in 19. degrees of *Sagittarie*) through the Comets body; the like may be scene in other places.

In-sooth this Comets forelock was a better Ephemeris for the Sunnes place then many in great request.

Hence is detected the grosse ignorance of those writers who neuer or seldome cast vp their eies towards those glorious lights, but onely delighting in solitary contemplation doe much busie their wits in searching the cause of Cometary streamings; affirming them to be of the same matter (but more rare and thin) with the head. Which with many other absurdities may be refuted by this present obseruation; which doth *se araisne questions* by geometricall and lineall necessitie certainly demonstrate that the Comets taile is nothing else but an irradiation of the

*The bushie lockes
not of the same
matter with the
Comets head.*

What it is.

Sunne through the pellucide head of the Comet. For though the Sunne-beames be not of themselves conspicuous in the pure aëry or ætheriall regions, yet passing through the Comets more condensed substance and there by refraction recollected and more neerely vnited they did not onely illustrate the Comet it selfe, but also a long tract beyond him.

*How the Comet
vanished.*

According to the refraction and recollection of the Sunnes beames, so was the illustration and illumination of the Comet ; which appeared to vs more or lesse as the Comet was neerer or farther from the earth : and these be the true reasons why the Comet (which at first was illustrate with a bright resplendence) did euery day more and more loose his radiant lustre till at length it appeared like a faint shadow, and quite vanished out of our sight : for neither could the Sun beames be any longer vnited by refraction in the Comets now dissolute and fluide substance, neither could that little glimpse (if any were) be perceiued, being so farre remote from the earth, as shall be anon remonstrate.

By the same reasons did the Comets streaming bush also by little and little vanish away, and so much the rather, by how much the Sunne rayes were there alwayes more dissipate then in the Comet, and those locks euer lesse relucient then the head.

*The forelocks
dilatation from
whence.*

The dilatation of the Comets fore-locke was caused by a second refraction of the Sunne beames, by which refraction they were brought to an intersection, after which they beganne againe to diverge,
or

or display themselves in that forme which appeared in the heauens, and is delineate in the planispheare.

This dilatation was nothing so strange, as the extent in length, being sometimes more then 45. degrees, and namely the 1. of December, ouersha-
dowing the left hinder knee of *Vrsa maior*.

The exceeding length of it.

Though in the end the Comet did as it were winde vp this long haire about his head.

Some haue doubted, if this long streame of light had touched the earth, whether it would haue caused any combustion? Surely no: Indeede the Sun beames may by reflexion or refraction bee so
concentred & vnited, that (though it were through a peece of ice framed into a burning glasse) they shall easily set any combustible matter on fire; but that happens onely in the center of vnion, or con-
course of the recollected beames: but this Comets lockes being diverged, or displaied rayes, could haue no such power though they had touched the earth.

It had no burning qualitie.

From this one obseruation of the Sunnes irradiation through the Comet many more strange and excellent conclusions may be collected, which neither my leasure will suffer mee to examine particularly, neither can these pages well containe them.

Many strange conclusions may be drawne from the Sunnes irradiation through the Comet.

Wherefore now I will tye vp this Comets radiant lockes with admiration of that glorious lampe, wherewith He that inhabits the light inaccessible doth illustrate, and enlighten this whole world.

ὁ τὸς ἡλίου ἐδωκε τὸ ἐκλυσιμα αὐτοῦ. Psal. 19. Hee hath set his Tabernacle in the Sunne, and it as a Bridegroom commeth out of his chamber, and reioyceth as a Gyant

The wonderfull light of the Sun.

to runne a race; his going forth is from the end of the heauen, and his circuits vnto the ends of it; and there is nothing hid from the heate thereof. This is the true *superior* *noctis* *superior*, the onely hart of inquenchable fire, which so many thousand leagues off warmeth the earth, enlightneth these refulgent bodies, and with them this new Planet.

The Comets distance from the earth.

I haue at large shewed the Comets places as they appeared in the surface of Heauen, both in his owne circle, and also referred to the Ecliptick, and *Æquinoctiall*; but there is another place of more difficult inquisition, and greater admiration, and that is the Comets distance from this our habitable Orbe.

The error of Aristotle and his followers.

Common schooles treading the wrie steps of that great and witty, but often mis-leading Peripateticke, would confine this, and other Comets within the higher region of the aire; neither could his palpable error in the place of *Galaxia* (or the milkie-way in Heauen) acknowledged by most bring them into suspicion of the like deuiation from the high ætheriall region of Comets into the Elementary vallies of Meteors; where, and with whom to place this Comet were to hide so glorious a candle vnder a bushell, and not to set it in a candlestick, that all in the house may see; to set a beacon not on an hill, but in a dale, especially if wee consider that the highest region of the aire (by the Optickes demonstration from the time of twilight) is not many above 50. english miles from the earth.

How high the aire is from the earth.

The Comets place about the Moone argued from the regularitie of his motion.

Wherefore I may iustly vse the *Lacedemonian* *ὁ δὲ Σπάρτην*, walke not in the errors of those wandering Philosophers. Let this Comets regular and ordinate

ordinate motion (for a month together) neuer de-
uiating from one right line, keepe you in the way
of verity.

This very reason alone many ages agoe perswa-
ded diuine *Seneca*, and in our Fathers daies that in-
genious and subtile *Cardane* to place all Comets a-
boue the elementarie regions, wherein only incon-
stant and momentany Meteors make their fickle
vagaries.

² From the
quantity thereof.

The analogie also obserued in the starres betwixt
their distance from the earth, and their motion a-
bout the same, doth eleuate this Comet aboue the
Lunary regions, his proper motion being scarce at
any time the fourth part of hers.

This argument was sometimes accounted a firme
demonstration, before that conglomeration of so-
lide orbes was with the Aries or engines of Astro-
nomicall obseruations battered and demolished:
neither is it yet reiectcd by those who well deserue
the first place in the restauration of this celestiall Art;
for though those Babylonian wals be ruinated, yet
is the analogie of motion and distance stil preserued.
It was the saying of diuine *Plato*, *Θεὸς μέγας ποιῆς καὶ
κτίστης*, God is the great Master of Geometrie, hauing
created all things in waight, measure, and number, as
holy writ doth witnesse. The most accurate and re-
fined Astronomie doth confesse and professe, that
slow *Saturne* is farthest from the earth, and swift
Luna neereft, the rest intermediating in their motion,
according to their distance from this little terrell,
for whose vse especially those vast planetarie globes
were created.

God hath crea-
ted all things in
waight, measure
and number.

3 From infalli-
ble demonstra-
tion by parallax.

But that abstruse & admirable ἀποδείξις ὁδοῦ καὶ θέσεως, most irrefragable and infallible remonstrance drawn from the parallax doth place this Comet farther beyond the Moone, then she is from the earth, yea many times her apogæall or greatest distance. But because this huge distance may seeme strange to many (being as I haue shewed contrary to the long receiued opinion of common Philosophers) and the doctrine of parallax to most no lesse vnknowne, then the word it selfe ; I will for their better satisfaction, with as much breuity and perspicuity as I can, vnfold obscure, but sure argument.

Parallax (in Astronomy) is a commutation or changing of any Planets or Comets true place (pointed out by a line drawne from the Earths center through the Planets, or Comets) into another place appearing to our eye on the superficies of this terrestriall speculatorie. Or parallax, is the difference of these two places.

This commutation or difference ariseth from that ἀλλοιότης, reason, or (to vse the vulgar tearme, though here vnproper) proportion, which the earths semidiameter (or thicknesse from the center to his superficies) hath to the planets or Comets distance from the earth : for if this semidiameter hold any sensible proportion to the distance, it is not possible that the eye vpon the earth should see the Comet or Planet in the same place which it hath in respect of the center, but there will be a parallax, commutation, or difference more or lesse according to the distance. So the Moones perigæal or shortest distance being not much more then fiftie two semidiameters of the earth,

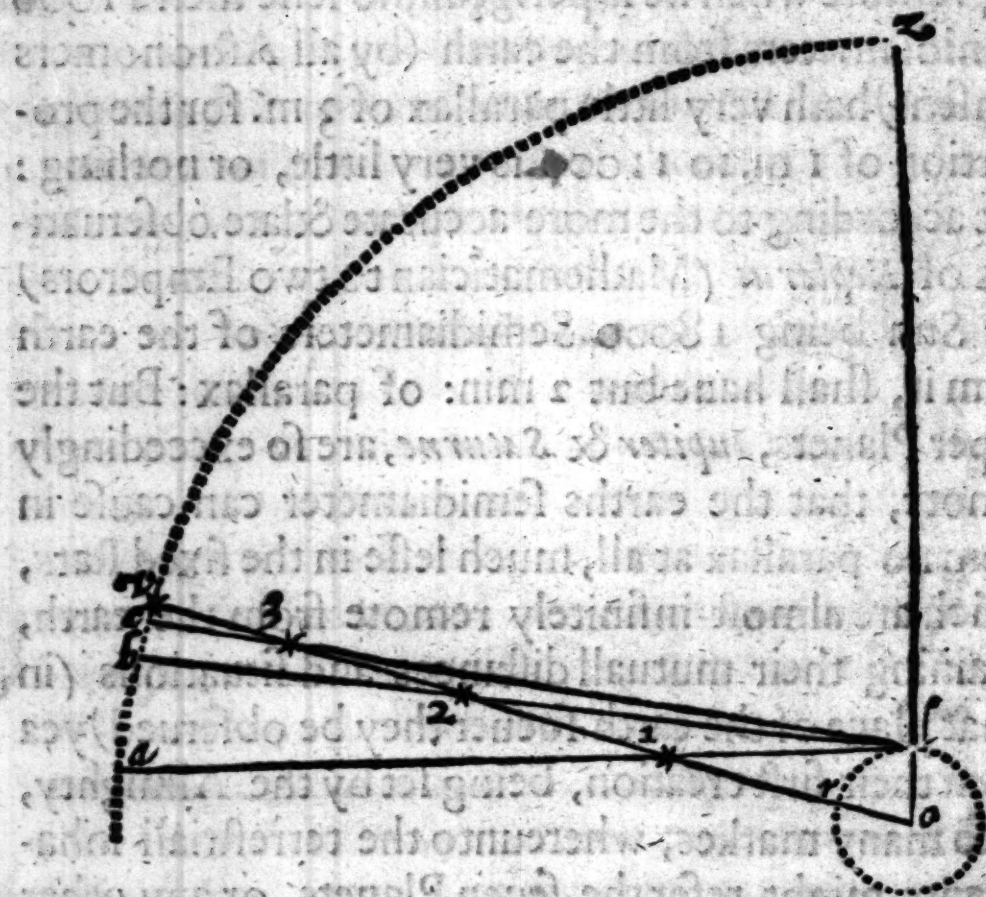
earth, falls into a notorious parallax (or difference of her true and apparant place) and that of one degree and 6. minutes, for the proportion of one to fiftie two, or $\frac{1}{52}$ part is very sensible: but the Sun being remote when he is perigeall, no lesse then 11000 Semidiameters from the earth (by all Astronomers consent) hath very little parallax of 3 m. for the proportion of 1 m. to 11000 is very little, or nothing: but according to the more accurate & late observations of *Keplerus* (Mathematician to two Emperors) the Sun being 18000 Semidiameters of the earth from it, shall have but 2 min: of parallax: But the vpper Planets, *Iupiter* & *Saturne*, are so exceedingly remote, that the earths semidiameter can cause in them no parallax at all, much lesse in the fixed stars, which are almost infinitely remote from the earth, retaining their mutuall distances and situations (in what place of the earth soeuer they be obserued) yea from their first creation, being set by the Almighty, as so many markes, whereunto the terrestriall inhabitants might refer the seuen Planets, or any other celestiaall light, as Comets and new Stars.

For

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For the better vnderstanding of this parallacti-
call discourse, I must entreat you to examine this
following Diagram.

*Diagram of pa-
rallex.*



*Explication of
the Diagram.*

Where o, l , is the earths semidiameter, $1, 2, 3$, be
three Planets or Comets diuersely remote from the
earth, and all in one line from o , the earths center,
which refers them all to one place in v , amongst the
fixed Stars : but the eye being on the earths super-
ficies in l , doth cause a parallax or change of place,
more or lesse, as they be distant from the earth : for
 1 the neereft to the earth doth from l appeare in a ,
making a great parallax, the angle $v, 1, a$, or more
plainely the arch v, a , which (in the eighth Spheare)

is

is equall to the angle, but the 2 being further from the earth, doth from l appeare in b. hauing v, b, lesse parallax, then the former : but 3 being yet further from the earth, doth from l appeare in c, hauing v, c, but a little parallax.

Any of these parallaxes are greatest when the Planet is in the Horizon, as 1 is, the other being a little above : but in the Zenith or Verticall poynt ouer our heads, there can be no parallax at all, for then the line from the Center doth runne into the line from the Superficies, making one line. as you see z, l, o. So that the parallax doth from the Horizon vpwards continually decrease, and at length vanish away in the Zenith.

Parallax greatest in the Horizon.

Nothing in the Zenith.

So much lesse as the Comet is farther from the earth.

By this which hath beene sayd is manifest, that the farther any visible thing is from the earth, the lesse parallax it must needs haue : but the finding of the parallax is not so easie ; *Hic labor, hoc opus est* : this requires more then ordinary skill in Astronomy.

There bee two speciall wayes to finde the parallax : The one is by two obseruations made at one time in two remote places of the earth, for if the Comet doth in both of them appeare in one and the same place amongst the fixed starres, then cannot the earths semidiameter haue any proportion to the distance of the Comet : but if the Comet doth appeare diuersly amongst the fixed starres, then hath it parallax more or lesse according to his distance from the earth.

To finde the parallax.

By obseruations in two diuers places at one time.

In the former Diagram let L be London, R be some other remote place, 1 the Comet, which from L will appeare amongst the fixed starres in A, but from

D

from

from R it will appeare in V : so that the difference is $A.V.$ very much, because 1 is neere the earth : Let there be also another Comet 3 which from Z will appeare in C , but from R in V , the difference $V.C$ very little, because 3 is very farre from the earth. I haue beene very diligent in obseruing all the Comets places amongst the fixed starres, that so hereafter comparing them with those which appeared in other countries, the true parallax of this Comet may be knowne, which I dare say by this triall will proue little or none. In the meane time I haue not neglected the second way of finding the parallax, which is by comparing two apparant places of the Comet in one and the same night, one place being neere the Horizon, and the other neere the Zenith. For the difference of these two places will manifest the parallax : where regard must be had of the starres proper motion in the interuall of time, which is very easie to performe. There be many kindes of obseruations, by altitudes, declinations, ascensions, &c. which are very difficult, and perplexed with diuers species of parallaxes, besides refraction. And therefore omitting them, I will acquaint you with an easie and most certaine way to search forth any Comets parallax, & that without error of 5 or 6 mi. which is nothing to 66 mi. of the Moones parallax. This is by obseruing the Comet a very little ouer or vnder some starre neere the Horizon, and afterwards the same night neere the Zenith or verticall point. For if the Comet (hauing parallax) neere the Horizon appeare a little vnder the starre, it will towards the Zenith appeare neerer, yea (it may be) eclipse the star,

or

At London.

*2. In one place
by two obserua-
tions in one
night.*

*An easie and
certaine way to
finde the pa-
rallax.*

or be a little above him, which is plaine by the Diagram, for the Comet 3 appearing from *l* in *e* vnder the starre *v* will in *z* the verticall point bee in conjunction with him, and eclipse him from your sight. Here the Comet is supposed to haue no motion, besides that from the *primum mobile*: but if hee haue any, as this Comet had, it is easie to make allowance for the same, especially being so little in 5 or 6 houres betwixt the two obseruations. As for refraction neere the Horizon, it cannot bring any incumbrance, for that it doth as well eleuate the Starre, as the Comet.

*Refraction here
no hindrance.*

The night before the third of December, about one houre after midnight, I obserued the Comet not yet 10. degrees above the Horizon, vnder two little starres of the fourth light in the girdle of *Arctophylax*. The distance of these starres is but 50. min: which serued as a ready and certaine measure, wherunto I might compare the distance of the Comet from them, for the more perspicuous distinction whereof I vsed the *Telescopium* or Trunke-spectacle.

*An obseruation
of the Comets
parallax.*

The Comet appeared from the vppermost starre (which was directly in his way) the distance of the two stars, & moreouer $\frac{1}{3}$ part thereof, in all one deg. 6. min. Towards morning, the Comet being mounted 53. degrees above the Horizon, the Comet appeared from the said starre a little more then $\frac{2}{3}$ of the two stars distance, about 36 mi: so that in 5. houres the Comet was come but 30. minutes neerer to the starre; no more then his proper motion in that time (according to former and following nights obseruations) required. Wherefore remoning this pro-

*Found much lesse
than the Moones
parallax.*

per motion, he would haue appeared at both times
a like distant from the starre ; and therefore had
none or little parallax. For suppose the Comet to
haue had as much parallax as the Moone (in her pe-
rigæon) which is (in 10. degrees aboue the Horizon)
65. min. and in 53. deg. of altitude scarce 40. m. the
difference is 25. m. and so much should the Comet
by alteration of his parallax haue appeared neerer
the starre at the second obseruation, then at the first,
to which if you adde his proper motion in the mean
space, it will be 55. m. & so the Comet should haue
been but $\frac{1}{2}$ part of the 2 stars distance from the vpper
starre ; whereas he was more then $\frac{2}{3}$, which is a no-
torious difference, and could not escape the sight ;
and therefore had not so great parallax as the moone,
and by necessary consequence was aboue her, yea
many times her distance from the earth, which I
might easily confirme by the like obseruation the
night following, when the Comet had ouertaken
the starre more then a degree ; but especially by my
obseruations the nights preceding the 10. 11. and
12. daies, when the Comet was very neere vnto a
little starre in the left arme of *Arctophylax*, at the
first vnder him and after aboue, and also by his di-
stance from another obscure star (which I found by
the *Telescopium* 15 mi. aboue the Comet : this little
starre I could finde in no globe nor mappe, but one-
ly in the excellent *Vranimetria* of that diligent and
industrious *Beyerus*. By diligent and curious noting
the Comets distance from these starres, first neere
the Horizon, and afterwards towards the Zenith
in the same nights, I dare be bold to conclude that
this

this Comet had not 6. minutes of parallax (for within these limites I may confine the incertaintie of my obseruations) and therefore more then 600. semidiameters of the earth distant from it.

How strange so euer this may seeme, yet is it en- Proved also
from prospect of
the Comets fore-
locke. forced from most certaine demonstration parallaxi- call. Which may moreouer be confirmed from the

prospect and irradiation of this Comets forelocke. Which if the head had any notable parallax, must of necessitie haue twice so much, and so could not appeare in one line with the Comet, and the Sunne as I haue formerly demonstrated.

But least the Reader not acquainted with Mathema- ticall demonstrations, should thinke it a nouell posi- tion, yea *μεγαλόν τι καὶ ἄγνωστον*, a strange vncouth & neuer heard of opinion to elevate Comets so far a- boue the Elementary, yea lunary regions. I must re- late vnto them that besides those famous new stars, the one in *Cassiopea* 1572. and the other in the foot of *Ophiuchus* 1604. both which lasted more then a yeere, and that in *Cygnus* continuing many yeeres; History of new
stars, and Co-
mets far above
the Moone.

all three from all places of the earth appearing in one and the same position amongst the fixed stars, (an argument) of their huge distance aboue the Moone) besides these and that new starre noted by *Hipparchus* 2000. yeeres almost since, diuers excel- lent Mathematicians of this age, haue by certaine remonstrances shewed many Comets farther aboue the Moone, then I affirme this to be. Amongst, o- thers, that second *Hipparchus* Tycho Brahe in the Co- mets 1577. 1580. 1582. 1585. 1590. could not with all his admirable, sumptuous, and exquisite V-

ranicall engines finde the least parallax, no not of one minute; and therefore iustly affirmed them far beyond the Moone: yea, which is most remarkable, and caused no small admiration, and delight in the Heroicke *Lantgrave* of *Hessen*, as it pleased him by letters to signifie to *Tycho. Rothmannus* the *Lantgraues* Mathematician, obseruing the Comet in 1585. agreed with *Tycho* in the place thereof to a scruple, (at one and the same instant) and yet the one was remote from the other almost 300. English miles, the distance betwixt *Cassels*, and *Vraniburge*, which punctuall agreement had been impossible if the Comet had not beene exceedingly remote beyond the moone. I must also remember that *Albumasar* 1000. yeares almost since obserued a Comet aboue the spheare of *Mercury*.

This Comet 600.
semidiameters of
the earth from it.

Wherefore it is no such strange distance from the earth that I assigne to this our Comet, 600. semidiameters of the earth; which is but $\frac{1}{2}$ of the Suns distance. I might iustly account this Comet higher, but I will keepe within the limites of my obseruations.

How many English miles the
earths semidiameter is.

How many miles
the Comet was
from the earth.

And for your better satisfaction, reduce this distance into english miles, allowing (by the statute of 25. *Elizabeth*) 5280. foote to a mile; & 3834. of these miles to the earths Semidiameter, therein following the late ingenious and painefull measurements of *Willebrordus Snellius*. Wherefore the Comets distance from the earth was not lesse then 2300000. english miles, whereas the Moone (when she is neerest) is little more then 200900. miles.

The irradiation also of this Comets streame,
(though

(though in the end it seemed very short) was some-
time extended to a wonderfull length, more then
2000000. miles, which is nothing to the Sunnes
ejaculation of his beames vpon the earth, more then
6900000. miles. From the Comets distance doth
necessarilly follow the vast globositie of his body,
though to vs his diameter seemed but a few mi-
nutes, which being no lesse then 4. minutes will ex-
tend to 2668. miles, which is $\frac{1}{3}$ almost of the earths
diameter, and therefore the Comets bulke was at
least $\frac{1}{27}$ of the whole earth; and not fully twice grea-
ter then the Moone; but the Comet compared to
the Sunne was scarce 1. to 8000. so little is this great
Comet in respect of that glorious lampe; and yet
the Sunne but a point to the immense spheare of
fixed starres; and all this lesse then nothing in com-
parison of that infinite Circle, *Cuius centrum est ubi-
que, circumferentia nusquam*, The center of whose pre-
sence, and prescience is every where, and has limits no
where: That great *Δις*, and Creator, who hath
measured the waters in the hollow of his hand, meted
out heauen with a spanne, comprehended the dust of the
earth in a measure, waighed the mountaines in scales,
and the hills in a balance. O Lord when I consider the
Heauens, the worke of thy fingers, the Moone, and the
Starres, which thou hast ordained, what is man that thou
art mindfull of him, and the sonne of man that thou vi-
sitest him?

How many miles
the forelocke ex-
tended.

How many miles
the Comet was in
thicknesse.

How much the
globositie there-
of was compared
to the Earth,
Moone, and
Sunne.

The infinitenesse
of the *Almagest*.

The Comet was
not composed of
exhalations.

This Comets huge distance from the earth, and
vast magnitude will cause to vanish all these smoake
exhalations which by common opinion being by
the celestially light attracted from the earth into the
higher

24 *An^d astronomieall Description of*

higher regions of the aire, are there condensed, and by motion set on fire, continually burning in the forme of a Comet, vntill all the materiall be spent. But this Comet was farre aboue the highest ascent of grosse and sulphurous exhalations, his quantitie more then could be caused by a great part of the earth turned into smoke, his motion too regular, and his durance too long for such wandering, and soone vanishing exhalations.

Those Philosophers, who still walke in the way of the Gentiles, are afraide to induce generation, or any other mutation into the heauens, rather choosling to follow their blinde guide (who denied the world to haue any beginning, or ending) then to beleue the infallible truth of sacred Scripture.

Others haue beene scrupulous to conceit any creation since that first Saboth.

*What was the
Comets mate-
rials.*

But whether this Comet and the like were caused by efficacie of nature (the ordinary power which God hath put into all his creatures) compacting the liquid ætheriall substance, or whether by the immediate power of the worlds Architect (*qui dixit, & facta sunt, mandauit, & creata sunt; Spake and they were made, commanded and they were created*) a new matter was presently created:

I will not here curiously dispute, either of these waies doth acknowledge a celestiaall matter, and diuine prouidence.

*The Comet was
made of Ga-
laxia.*

It were vaine to refute those who haue imagined Comets, and new starres to be made of the *Galaxia*, or milkie way; for so before this day would all that milke haue beene turned into curds; neither is that way

way any whit more condense then the rest of the heauen, but onely an irradiation of innumerable starres close together, as the *Telescopium* doth ocularly demonstrate. *The Comet not made of Galaxie*

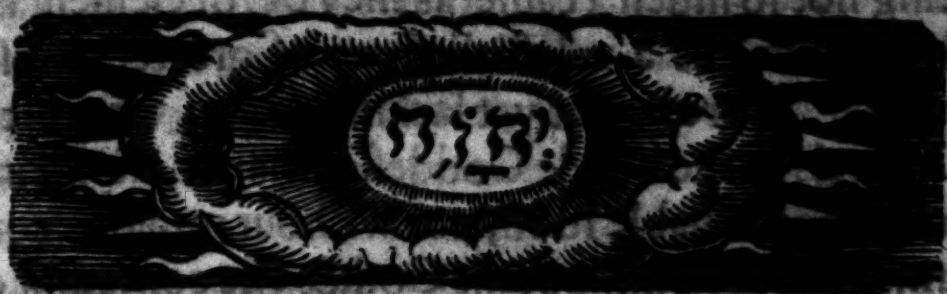
Neither shall I need to reprove those ancient Philosophers, who (in the dawning of Astronomie) thought Comets to be *σύναντες*, a co-apparition of Planets seeming to touch one another; or (as our simple vulgar still doe) some planet, especially *Merc.* or *Venus* appearing after a long latitat vnder the Sun beames; or some fixed starre disguised (I know not how) with borrowed locks. Not much vnlike to some late writers, who suppose Comets to be starres from the beginning created, but hidden in the deepe abysses of heauen, and at certaine times descending lower, become visible to the earth. *Not a co-apparition of planets.*
Not morning-starre.

But whatsoever was the materiall of this Comet, howsoever compact, and dissolved, I am enforced in conclusion of this Astronomicall part, to lie prostrate at the Almightyes power in the globositie thereof, to admire his wisdome in the motion, and adore his goodnesse in the present apparition. *Not created from the beginning.*
A religious conclusion.

E MORALL

way any other main condition such the rest of the
beaten, but only an intention of immutability
firstly to consider, as the judgment both con-
sideration
Neither has I need to repeat the same thing
logically, who (in the drawing of Astronomy)
thought Corners to be what, a co-operation of
I have been to say to one another, or (as our
simplest of all things) some part, especially very
or some appearing first long later and then the
beams, or some fixed stars (I know not
how) with borrowed looks, for much unlike to
some late writers, who suppose Corners to be stars
from the beginning created, but hidden in the depths
of life of heaven, and at certain times descending
lower, become visible to the earth.
But what else was the material of this Corner,
howsoever compact, and dissolved, I am not
in conclusion of this Astronomical part, to the pro-
fessors as the Astronomer power in the globe
thereof, to admit his will done in the motion, and
where his good will in the present apparition.

MORALL



MORALL PROGNOSTICKS

or Applications of the late

Comet or Blazing-Starre.

Tu Iupiter me ducito, & Fatalitas.

*Great God, that doest all future things effect,
Inspire my thoughts with truth, my pen direct.*



In now remains (with my readers friendly censure) to point a Mercuriall finger in the Prognosticks, especially the morall applications of this new Comet, by diuine providence set on the high Olympian Mount, to some the Herald of wrath, but to others the ioyfull Embassador of peace and mercy; the place and body thereof farre surmounting the region, and no lesse excellling the matter of common Meteors, the signification also doth as much transcend their effects, being

28 *Morall Prognosticks or Applications*

*This Comet a
signe of more
then elementarie
alterations.*

*Against Epicu-
rean chance.*

*And neglect of
these celestiaall
signes.*

being not so much a cause (as they be) of elementary alterations, as a celestiaall signe of greater consequents. There be not yet lacking some, who trect Chancels to the blinde Goddesse Chance, sacrificing to that abominable Idoll, not without impious contumelie of the omnipotent God, & vile contempt of his power and prouidence in the fabrique and regiment of the world. These true

———— *Epicuri de grege porci,*
filthy and brutish swine, *ἢ τοὺς ἑστὶ κακία,* whose God (as the Apostle saith) is their bellie, wallowing in the mire of voluptuous sensualitie, little regard the apparition of these new celestiaall signes, taking more care to frizle and bristle their superfluous haire, than of this Comets blazing lockes. These Epicurean pigs in stead of sober Elegies, grunt forth their wanton Ditties,

*Vivamus mea Lesbia, atque amemus,
Rumoresq; senum seneriorum
Omnes unius astimemus assis:
Soles occidere & redire possunt,
Nobis cum semel occidit brevis lux,
Nox est perpetuò una dormienda.*

Come Lesbia, let vs liue and loue;
What though grim Sires vs reprove?
A doyt for all their wise aduise,
The Sunne may set, and eftsfoones rise,
But when our wastfull blase is past,
Darke night with vs for aye will last.

*Procul, procul è profani:
Deus! En Deus!*

Away, away prophane, irreligious wretches: it is
God,

of the late Comet or Blazing starre. 29

God, it is God omnipotent, and omniscient, to the wicked most fearfull and terrible, to the repentant most gracious and mercifull, that appears in these celestiall signes. I might easily fill a volume with verses of holy enraged Poets, who haue sounded a loud alarme of these blazing starres; yea and confirme their propheticke lines with particular histories of the strange mutations ensuing these presages both in Church and Common-weale. Let that *Epi-phonema* of *Manilius* to *Augustus Caesar* suffice:

God doth ap-
pear in these
signes.

Nunquam futilibus excanduit ignibus aether:

Mutations en-
suing them.

The earth in vaine did neuer gaze,

When Comets in the skie doe blaze.

But I list not to be an ominous Scrich-owle: I had rather be the Halcyon of calme serenitie, which doubtlesse I shall be if our selues hinder not.

If any mill fel-
low, wee our
selues are in
fault.

Ne mirere graueis rerumq; hominumq; ruinas:

Sapè domi culpa est, nescimus credere caelo.

Maruell not if strange ruines men doe Greene:

The fault's at home, heauen we not beleue.

My deare Countrimen, Heauen forbid that I should be to you a *Cassandra*, but a *Calchas*. Will you haue my lines the comfortable raies of *Phabus*, more true then those Delphicke Oracles? Will you not haue this Comet an infortunate *Helene*, and wofull messenger of tempest? Then cast ouer boord sleepe disobedient *Ionas*; let no rebellious transgressions, no sinfull fugitiues lurke and snort in your Cabines.

Preuent the diuine anger with timely and serious repentance, then dare I say to you with *Jeremiah*, feare not the signes of heauen, at which the heathen are dismayde.

Sinners being be-
wilted, these
signes need not
be feared.

30 *Morall Prognosticks or Applications*

*Charlemaines
fearefulnesse.*

Indeede *Charlemaine* did religiously answere in this very case; That he feared not the signe, but the great and potent Creator thereof; yet I suppose that iealous feare wrought much in the Emperours feeble spirits, ready of themselves to vanish through age.

*Vespasians an-
swer concerning
a Comet.*

It was more couragiously replied by *Vespasian* (as *Dion* reports) when the apparition of a Comet was thought to portend his death. No, said he, this bushie starre noteth not me, but the Parthian King, *ἐπεὶ γὰρ ὁ κομήτης, ἵστα δὲ παρμαρὶς οὐρανὸν*. For he hath the Comets lockes, I am bald.

*The wicked haue
only cause to
feare.*

And insooth those Gorgons heads, whose snakie haire of filthy and loathsome sinnes affright earth, and prouoke heaven, haue only or speciall cause to suspect these celestiall signes; but others that can be content to cut off these monstrous and vicious lockes, yea preferre the baldnesse of Innocencie before the curles of Iniquity; need not to feare, but rather hope, that these new Starres be to them the rayes of diuine fauour, and goodnesse.

*Comets rayes of
diuine fauour to
the godly.*

*God only knowes
what this Comet
doth signifie in
particular.*

What this Comet doth in particular signifie is not possible to declare without an *ἐνδοιασμός* or diuine inspiration.

— *Natus Deus omnia solus*

Qua sunt, qua fuerint, qua mox ventura trahantur.

God onely knowes, and none, but He

What is, what was, and what shall be.

*The Star which
led the Wisemen
to Christ.*

Yet to disceend somewhat lower then Vniuersalities: That blessed Starre, which conducted the Magi to Christs poore, but sacred nursery (of whose incarnation, and happinesse to mankind thereby that

of the late Comet or Blazing-starre. 31

that Starre was an heavenly Harbenger) doth enforce me often to thinke that those many new stars and Comets, which have beene more this last Century of the world, then in many ages before, did amongst other things signifie that glorious light of the Gospell, which hath lately illumined the whole world.

Comets signifie the light of the Gospell.

About the preaching of *Luther* were at least five Comets in tenne yeares, after which followed the happy departure of *Germany*, *England*, and many other Northerne parts from the spirituall *Babylon*. This new Comet doth giue vs hope, that the rest of Christendome before long will follow; and so at length shall be verified the Prophecie of *Sybill* upon occasion of these new stars.

Five Comets in 10. yeares about the preaching of Luther.

Sybilles prophesie against Rome.

Rome shall againe become a forlorne and desert village, or sheep-coat.

Did not our Fathers finde the Comet in 1558. to be a signe of much happinesse to the persecuted Protestants in *England*, and *Germany*? yea did not that admirable new Starre in *Cassiopea* 1572. and that remarkable Comet 1577. plainly from heaven remonstrate, that howsoever the Euangelicall Churches in *France*, and the *Low-countries* might be for a time greivously afflicted, yet maugre *Sathan*, and all his hellish Furies they should at length flourish, and triumph ouer their cruell aduersaries. Besides these regions of *Europe*, a blessed light hath in this age shined to another world, which did long sit in most fearefull darkenesse; I meane the *East* and *West Indies*. I am verily perswaded that the new

The Comet 1558. a good signe to the Protestants.

The new Starre 1572. and the Comet 1577.

The Gospell hath shined amongst the Indians.

32 Morall Prognosticks or Applications

The late new
Stars in Ophi-
chus and Cygnus.

The Gospell shall
be preached
through the
whole world.

Calling of the
Iewes.

Against vulgar
Astrologie.

Morall applica-
tion of the Co-
mets motion a-
mongst the con-
stellations.

new Star which appeared so long from September 1604. to Ianuary, 1606. in the foot of *Serpentarius*, hauing coincidance with the great coniunction of the three superiour Planets, and that other so many yeares in *Cygnus*, doth promise (being with this present Comet conformed) a more cleare illustration of those remote regions with the resplendent light of saluation: according to our Sauours Oracle; *Pradicabitur Euangelium hoc in uniuerso terrarum orbe: And this Gospell shall be preached throughout the whole earth.* Which giues vs hope, that his other gracious promise shall shortly be accomplished. *And Ierusalem shall be troden downe by the Gentiles, untill the time of the Gentiles be fulfilled.* Which certainly shall precede the second comming of our blessed Sauour; *Fore runners whereof (he saith) shall be signes in the Sunne, Moone, and Starres.*

To draw neerer home, not by the rules of vulgar Astrologie, whose precepts I esteeme no better then *οὐρανὸν νεπέταν φάρμακον*, Phantasticke dreames (as *Metrocles* said of his bookes, which hee consecrated to *Vulcan*) but directed by these celestially Hieroglyphickes, in which I may say as the *Poet* long agoe:

Sapientibus per ambages fata eloqui;

Fatuis magistrum prorsus esse inutilem.

The Fates by winding riddles Wisemen teach,
In vaine to fools though ne'r so plain you preach.
Directed (I say) by this Hieroglyphicke doctrine, as by a sure Cynosure, and conducting Pole-starre: I dare boldly affirme, that this Comet being followed in his Emblemated motion is to great *Britaines* Maestie,

Maestie,

Maieftie, and Monarchie, *Signum faelix, faustum, & fortunatum*: An auspicious signe of great honour and happineffe.

This Comet followed in his motion a happy signe to great Britaine.

About the 17. of Nouember, the Comet was in coniunction with *Mercury*, supposed by the ancients the Messenger, and Interpreter of Heauen, Patrone of Arts and trafficke: this fortunate meeting was neere the Ecliptique on this Northerne side; as if Royall *Phabus* had sent him to entertaine this new Embassador with ioyfull embraces, and honourably to receiue him into these arcticke regions: yea, as it were to giue him some speciall charge from the great Monarch of the Starrie Empire. And here (me thinks) the East *Indies* do by these two Legates present great *Britaine* with her odoriferous and healthfull spices, her precious Iewels, and other orientall riches.

The Comets conjunction with Mercurie.

This Comet brings vs hope of good from the East Indies.

The place of this congresse is most remarkable, amidst the balance of *Libra*; which the Comet passing through doth withall, as it were from Heauen, proclaime to Prince and people:

The Comets passage through the Constellation of Libra.

--- *discite iustitiam moniti.*

Iustice by learned Politicians is diuided into Geometricall, or distributive, and arithmeticall or correctiue Iustice; and both of these doth this heauenly Embassador commend to mortall men, especially the Inhabitants of these *British* Iles. And for the first doth tell them that Cyclopical Anarchy is dangerous, and no lesse is Anabaptisticall *isotopia*, or equalitie: And thanks be to God our Church, and Common-weale are well rid of these fancie Mates. But this Messenger of Heauen doth warne vs of

Commendeth Iustice and Equitie vnto vs.

Distributive Iustice.

Equalitie dangerous.

F

another

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Pride of apparel. another proud parity, which beginnes to affront all degrees in sumptuous, and presumptuous apparell, with strange, and inconstant fashions; a disorder much reprov'd by God himselfe, and withstood in well governed Common-weales.

The other is correctiue Iustice, an indifferent and equall administration of right to all. When the Lawes be not as *Anacharsis* said, like Spiders webs, which the great Hornets breake through, but the silly flies are intangled; when the Widow and fatherlesse are protected, and the poore mans cause gratis pleaded; where the scant measure (so abominable to God) is made vp; where there is no wicked balance (which he will not iustifie) nor secret bagges of deceitfull waights.

Exhortation to equitie.

Wherefore my COUNTRYMEN, doe iustly one with another, and shew mercy; so shall you bee more acceptable to God, then if you offered a thousand Hecatombs, or tenne thousand rivers of oyle. Behold, behold this celestiall Messenger from Heauen doth bring you an euen poyling balance, & equall waights, receiue and vse them, so shall it be the signe of good to you and yours: O excellent Iustice.

*Te duce si qua manent sceleris vestigia nostri,
Irrita perpetuâ soluent formidine terras.*

Thee being Guide, if sinfull steps appeare,
They now don out, shall free the world frõ feare.

Pauca tamen suberunt prisca vestigia fraudis.

It may be yet some little staine,
Of the old Deceit will still remaine.
O would it were no worse, O that wee were so
purged of this deceitfull iniquitie; then might wee
with

with cheerefull eies behold this Embassador from Heauen, and with ioyfull hearts receiue his message.

But least wee should without waighing their worth, neglect these golden balances of right and equitie, the Comet doth another way againe, and againe inforce the necessitie of this excellent virtue of virtues,

Ἐν τῇ δικαιοσυνῇ συνῴκεται πάντα ἀρετὴ δέ,

Iustitia in sese virtutes continet omnes.

To Iustices most gracious Court

All other virtues doe resort.

Which this Starre would blazen forth by displaying his golden lockes ouer the skirts of *Virgo*, that iust *Astræa*, which last of all the virtues forlooke the earth, polluted with so many vices.

The Comet by spreading his haire ouer *Virgo* doth enforce his commendation of Iustice.

Vltima cælestium terras Astræa reliquit.

Iustice last of all the Gods did flie,

From earth polluted with Impiety.

But this *Syderens nuncius* doth as it were intreat her to returne with her flourishing spike, and aduise vs to giue her content, least as in former times our corrupt manners make her wearie of the earth. From *Libra* the Comet posting ouer the ætheriall plaines *camposque liquentes*, at length comes neere to *Ariadnes* crowne, which hee taketh to him for a princely reward of Iustice, reseruing the Virgins spike for the people. O all preserving Iustice, *fructificas solum & firmas solium*: Thou fructifiest the ground, and establishest the throne! Blessed are they that doe iustice at all times (saith the royall Psalmist)

The Comet presents a crowne to the Prince, and a spike of plenty to the people, for reward of Iustice.

lancie. Yea, without this Serpents eie, strength is but an one-eyd *Polyphemus*, mole *suus ruens*, destroying himselfe with his owne corpulencie.

Neuer was there more need of circumspection, ^{Neuer more need of the Serpents eye.} then in this sœculent and tartareous age, wherein many are so farre from *Numa's* erecting a Temple to Fidelitie, that they come neerer to these perfidious *Spartans*,

ὅτι οὐκ ἔστιν βωμὸς, οὐκ ἔστι νόμος, οὐκ ἔστι ὅρκος ὑπομνή.

Who haue neither altar, faith, nor oath.

Or if they haue any religion at all, the chiefe articles thereof be equiuocation, fraud, periurie, treacherie, affasinations, and murders : against whom there is no other but that *Epicharmian* prouision ;

Epicharmus his counsell.

οὐκ ἔστιν, οὐκ ἔστιν, οὐκ ἔστιν.

ἀγνοῖα ταῦτα ἔστιν ὁ νόμος.

Be watchfull, and remember so suspect ;

These be the armes which wisdomes selfe protect.

And in sooth had not our wise and learned *Salm* ^{His Maiesties searching eye of wisdomes preserved the whole Kingdoms.} with this Serpents eye searched into the secret vaults, and darke cauernes of that hellish gunpowder-treason, *de Britannia actum esset*, there had been a sudden vnexpected end of *Great Britaines* glory.

With these winding Serpents the ancient Sages ^{Lions Symbols of magnanimity coupled with Serpents.} coupled Lions the symbole of magnanimitie, neither may they be separate, but conioyned doe compleat a royall guardian and protector. Which is excellently typed forth by those who first reduced the starres into symbolicall constellations, placing *Kirgo* in the midst of *Libra* and *Leo*. I will not follow the allegoric in *Great Britaines* royall Lions, hauing done it elsewhere ; but applie the present embleme

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traced in this Comets motion, which with the Serpents eye ioyneth a defensive and offensive weapon in the hand of *Arctophylax*. Let none here expect from me an Alarme ; no, my panegyricall part of *Great Britaines* Monarchie will shew our singular and vnparalleled happinesse in this gracious peace.

καὶ οὕτως ἡ ἀντιπαρὸς ὁπλὴς,

said the high-soaring Poet ; Inexpert thoughts are vaine and light. *Dulce bellum inexpertis*, was the royall motto of *Englands* greatest Warriour, and *France's* terror, *Edward* the third.

Excellence of
peace.

It is an ill peace which I would not preferre before the most glorious warre ; and with *Martian* the Emperour, *Dum liceat in pace viuere, non licet arma sumere* : Whilest wee may liue in peace, wee may not take vp hostile armes.

Warre to be re-
membred in
peace.

Yet for all this, would I not counsell to deliuer vp our armes to our enemies, as the foolish shepheards sometimes did their dogges to the wolues.

Voluptuousnesse
bindeth war-
like meditations.

Oh how are wee degenerate from the generous spirits and warlike meditations of our victorious ancestors ! *Nimia felicitate mergimur in voluptates* : Our ouer-much felicitie hath almost drencht vs in voluptuousnesse.

*Et patimur longa pacis mala, senior armis
Luxuria incumbit.*

We feeble the breeding euils of long peace ;
Now riot worse then wars begins t' increase.
I will not aske where are the bowes and arrowes wherewith our fathers conquered *France*, and releued *Spaine* : but where are our Muskets ? Are they not turned into Tabacco pipes ? Where are our English

glifh valour and courage? Are they not with that outlandifh weed vanifhed into fmoake? May I not fay as it was fometimes faid of thofe degenerate Milesians, *πάλαι πέρ' ἦσαν ἀλκιμοὶ Ἄγγλοι*: The Englifh were once valiant and warlike. Who may not from thefe fmoakie parents feare a fumifh generation, whofe courage may perhaps be foone inflamed, but fooner quenched? Like as *Florus* describes the old French; whofe firft affault (faith he) was *maior quàm virorum*, more then for men; but prefently *minor quàm faeminarum*, leffe then for women. Or as *Iulius Celfus* reports of them, their courage was haftie, but effeminate, and vnable to refift. And in footh what other can we expect from this fumifh age, then a furious, but foone exhaling rage, rather then courage? I might iuftly take vp a Satyricke, and fharp reproofe of this degenerate cufhome. But this noble Citie giues vs better hope, and (though not forgotten in *Great Brittaines* Panegyricke, yet here alfo) enforces me to a iuft Encomion of her Ciuill Censure and Martiall difcipline. *London* (if any) may affume that braue Motto,

Muskets turned
into Tobacco
pipes.

The effeminate
valour of the
old French.

Rage rather
then courage.

Encomion of
London.

Tam Marti, quàm Mercurio.

being not only the rich ftaple of trade and trafficke, but alfo the compleat armorie of all Martiall accoutrements. Her flagge hath waued with all the foure windes, in the frozen North, torrid South, odoriferous East, and hopefull West. Her Crosse hath beene aduanced againft Turke and Infidell, and her Dagger died in the bloud of domeftick Rebels, and forraine enemies. Her worthy Citizens,

Pacis bellig. ministri,

Who

Who seruiceable are,

In peace, and also warre,

Her military
discipline.

Her voluntaries.

Coincidence of
this Comet with
the Synod at
Dort.

Comets often ap-
peare that the
workes of God
may be mani-
fested.

Commendation
of Astronomie.

doe not only by thousands in their yeerely gallant musters, reioyce their Citie, and strike a secret terror into their enemies, but also by their voluntarie and priuate Martiall meditations (each other weeke) giue a goodly testimonie of their generous spirits, seruiceable skill, and good affection to their King and Country. Truly these noble mindes, and war-like exercises, doe well deserue from the Commons imitation, and from the State encouragement. Thus much (if not too much) of *Arctophylax* his speare, and the Comets emblemated motion amongst the celestiall Hieroglyphicks. I may not forget the coincidence of this celestiall messenger with the present Synode at *Dort*, diuine prouidence actually with the rayes of this new Comet dispelling those foggie mists which began to ouer-shadow the glorious light of Euangelicall veritie. Neither may I omit that Comets doe often appeare, that the workes of God may be made manifest in them (as our Sauiour said in another case) or as *S. Paul*, that by these visible things we may know the inuisible; God by these new celestiall blazons labouring to eleuate our deiected eyes and base cogitations, from earth to the contemplation of his power, wisdom, and goodnesse in these glorious lights most apparant: *Cæli enarrant gloriam Dei, The heauens declare the glorie of the Lord*, saith the royall Prophet. How often is he rapt vp in the contemplation of the starres? Yea doth not God himselfe (expostulating with *Iob*) make mention of the celestiall Hieroglyphicks, the

the ſweet influence of the *Pleiades*; the bonds of *Orion*, *Maz-zaroth*, the ſonnes of *Arcturus*, and the crooked Serpent.

S. Paul reproving the *Athenians* blinde devotion *ἀγνοῶν θεῷ*, to the unknowne God, doth refute them by testimonie of their owne Poet; *τίς γάρ ἐστιν ἡμεῖς*, for we are alſo his offspring: the very words of *Aratus* the Greeke Poet, and in that very poeme, wherein he at large deciphereth the emblematicall configurations of the ſtarres. Certainly if *S. Paul* were now againe on the earth, and ſhould to ſome alleadge this *Aſtronomical* Poet, they would not faile with the *Athenians* to ſay, *ξένων δαιμονίων δοκεῖ καταγγελλεῖν*, He ſeemes to be a ſetter forth of ſtrange Gods; or exclaime with *Festus*, *καὶν Πάυλε, τὰ πλὰς σε χάμματα οἰς μακίαν διεγέρτη*: *Paul* thou art beſide thy ſelfe, too much learning doth make thee mad. But theſe madde *Ignoramus* muſt be cured with *Hellebore*, and not with words. More commendable was the endenour of *Hipparchus*, who vpon occaſion of a new ſtarre was ſtirred vp to ſuch admiration, that hee attempted (a more then humane act) to number the ſtarres vnto poſteritie, to meaſure their diſtances, and ſet forth their reſpectiue ſituations, yea to leaue the heauen it ſelfe as it were an inheritance to all men, if any in future times would be found to vnderſtand ſo rare a complot. But how few in ſo many after ages (two thouſands of yeeres) haue taken poſſeſſion of this heauenly heritage? How few *Ceſars* and *Alphonſes* haue patronized this noble ſcience? I cannot but bewaile this great neglect. But I hope this new Meſſenger from Heauen doth bring happie tidings of

Endenour of
Hipparchus in
Aſtronomie.

This diuine Art
neglected and
deſtitute of Pa-
trons.

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some munificent and liberall Patron to these ravishing (but impouerishing) studies, by whose gracious bountie the most recondite mysteries of this abstruse and diuine science shall at length be manifested.

Now for a finall closure to this impolished discourse :

Conclusion.

Whatsoever euill this new Comet may presage, the signe be to them that hate vs, and the interpretation thereof to our enemies: But whatsoever good it can promise, the God of Heauen (who there placed it) confirme them all to his royall Maiestie, and *Great Britaines Monarchie.. Amen.*

*From my house in London neere All-hallows
in the Wall, this last of Decemb. 1618.*

more than humane art) to number the starrs vnto
posterior to measure their distances, and let forth
their respective situations, yet to leave the heauen it
selfe as it were an inheritance to all men, if any in
these times would be found to vnderstand to rate a
complot. But how few in so many ages (two
thousands of yeeres) haue taken possession of this
heavenly heritage? How few Cassars and Alexanders
haue patronized this noble science? I cannot but be-
waile this great neglect. But I hope this new Mes-
senger from Heauen doth bring happy tidings of
some

